FACT SHEET

United States Environmental Protection Agency (EPA)
Region 10
Park Place Building, 13th Floor
1200 Sixth Avenue, OW-130
Seattle, Washington 98101
(206) 553-1214

Date:

Permit No.: WA-005022-9

PROPOSED REISSUANCE OF A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMITS TO DISCHARGE POLLUTANTS AND TO LANDFILL/LAND APPLY SEWAGE SLUDGE (BIOSOLIDS) PURSUANT TO THE PROVISIONS OF THE CLEAN WATER ACT

CITY OF WAPATO
205 E. Third Street
Wapato, Washington 98951

has applied for reissuance of an NPDES permit to discharge pollutants and landfill/land apply biosolids pursuant to the provisions of the Clean Water Act (the Act).

This Fact Sheet includes (a) the tentative determination of the Environmental Protection Agency (EPA) to reissue the permit, (b) information on public comment, public hearing, and appeal procedures, (c) the description of the current and proposed discharge and biosolids practices, (d) a listing of tentative effluent limitations, schedules of compliance, and other conditions, and (e) a sketch or map (Appendix D), or detailed description of the discharge and biosolids landfill/land apply locations. We call your special attention to the technical material presented in the latter part of this document.

Persons wishing to comment on the tentative determinations contained in the proposed permit reissuance may do so by the expiration date of the Public Notice. All written comments should be submitted to EPA as described in the Public Comments Section of the attached Public Notice.

After the expiration date of the Public Notice, the Director, Office of Water, will make final determinations with respect to the permit reissuance. The tentative determinations contained in the draft permit will become final conditions if no substantive comments are received during the public notice period.

If no substantive comments are received, the permit will be effective immediately upon reissuance. If comments are received, the permit will become effective 30 days after the final

determinations are made, unless a request for an evidentiary hearing is submitted within 30 days after receipt of the final determinations.

The proposed NPDES permit and other related documents are on file at the Region 10 office and may be inspected at the office in Seattle, WA any time between 8:30 a.m. and 4:00 p.m., Monday through Friday. Copies and other information may be requested by writing or by calling the NPDES Permits Unit at the above address. This material is also available at:

EPA Washington Operations Office
300 Desmond Dr. NE
Olympia, Washington 98504-7600
(360)753-9437

EPA Yakima Office
c/o DOE
15 W. Yakima Avenue
Yakima, Washington 98902
(509)575-5845

TECHNICAL INFORMATION

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I. APPLICANT

City of Wapato
205 E. Third Street
Wapato, Washington 98951

Facility contact: Dick Munson, WWTP Operator

NPDES Permit No.: WA-005022-9

II. ACTIVITY

A. Background. The City of Wapato owns and operates a municipal sewage treatment facility located on the Yakama Nation Indian Reservation. The facility provides secondary treatment and disinfection of wastewater. After treatment, the facility discharges the effluent to Drainage Way No. 2 which is within the Wapato Irrigation Project. Drainage Way No. 2 primarily carries irrigation return flows back to the Yakima River via Wanity Slough.

The plant receives domestic wastewater from residential and commercial sources, as well as industrial wastewater from local fruit packing plants. The facility average design flow is 1.10 million gallons per day (mgd) with an instantaneous peak flow of 2.3 mgd. The volume of wastewater discharged from the facility has varied from 0.36 to 1.2 mgd, dependant on the seasonal industrial dischargers, infiltration and inflow. The plant is currently being upgraded, however the plant design flow will remain unchanged.

B. Current Facility Design.

The influent wastewater flows through an electronic, in-line flow meter and into the headworks. The headworks contain a comminutor for grinding large influent solids, and an air degritter for removing the larger, heavier material. From the headworks, the wastewater flows to a primary clarifier that removes settleable and floating materials. The primary clarifier effluent is pumped into two parallel trains of mechanically driven Rotating Biological Contactor (RBC) units containing two shafts each. The RBC units remove soluble organic material and provide the secondary treatment for the wastewater. Effluent from the RBC units flows into two parallel secondary clarifiers for removal of biological solids and then to the chlorine contact chambers for disinfection. The final effluent wastewater is then discharged into Drainage Way No. 2.

Settleable and floating solids, as well as biological waste solids from the RBC's, removed by the primary and secondary clarifiers are pumped into the primary

digester. This sludge is stabilized in the primary and secondary aerobic digesters and then dewatered on the sludge drying beds. The sludge is stockpiled on-site for one year prior to disposal at the Cheyne municipal solid waste landfill.

C. Facility Upgrade Plans.

The Wapato treatment facility has experienced organic and hydraulic overloading since the mid 1980's. Overloading is considered to be caused predominately by food processing wastes discharged into the collection system by the local industries. It is projected that the influent to the facility will only continue to increase from rapid growth in the area. Therefore, the City of Wapato has completed final plans and awarded a contract for a treatment plant improvement project. Construction began in mid September of 1997 and is scheduled to end in mid March of 1998. Operational level of the improvements is expected to be reached six to eight weeks following completion of construction. The plan improvements include:

(1) the addition of two parallel Submerged Biological Contactors (SBC) trains (six shafts), four blowers, and influent and effluent samplers;

(2) the construction of a new blower building, two small buildings to house the new samplers, and two SBC holding tanks;

(3) replacement of the existing air piping from the blower building to the RBC's and lift pump controls;

(4) relocation of the existing pump lift station controls to the motor control center in the operations building and two existing blowers to new blower building; and

(5) improved biosolids handling and utilization facilities consisting of a new sewage grinder, sludge centrifuge, screw conveyor, polymer feed system, additional sludge pump, holding tank aeration system, and covers for the aerobic digesters.

III. DISCHARGE

A. Receiving Water.

The Wapato plant discharges to the Drainage Way No. 2 of the Wapato Irrigation Project, which flows into the Yakima River via Wanity Slough on the Yakama Indian Reservation. Since the Yakama Nation has not yet adopted water quality standards for this water body, EPA's practice is to apply adjacent or downstream

standards to the water body for the purpose of developing permit limitations and conditions. Therefore, the State of Washington water quality standards were applied to this permit.

In the State of Washington, water bodies are classified into one of five different classes. Each classification protects the water for specific uses. Classifications are found in the *Water Quality Standards for Surface Waters of the State of Washington*, WAC 173-201A-130 Specific Classifications - Freshwater. Drainage Way No. 2 is not directly classified in the standards, however, the regulations specify that all unclassified surface waters within the state shall be classified as Class A (WAC 173-201A-120(6)). Consultation with Washington Department of Ecology confirmed this classification of the receiving water.

Class A designation under the State of Washington water quality standards protects this water body for the following uses: water supply (domestic, industrial, agricultural), stock watering, fish and shellfish, wildlife habitat, recreation, and commerce and navigation. The quality of the water in Drainage Way No. 2, however, is below the class designation for this water body. It is affected by a host of degrading sources including, but not limited to, direct access of livestock, agricultural return discharges, lack of riparian vegetation, and storm water runoff.

EPA's national data base of sampling sites and associated water quality data, STORET, was searched for data from Drainage Way No. 2 and Wanity Slough. Limited data was found from Wanity Slough at Wapato and no data was found for Drainage Way No. 2. The most recent data from the STORET database for Wanity Slough was from 1989.

In 1994, the Yakama Nation Environmental Protection Program conducted monitoring of water quality in Drainage Way No. 2. This data is presented in Appendix A. The data was collected monthly within 20 and 50 feet upstream and downstream of the facility outfall. Flow data of Drainage Way No. 2 was also collected on a weekly basis by the facility from a sample point within 20 feet upstream of the facility outfall. This flow data is available from 1987 to present. Both of these data sets clearly show the seasonal nature of flow in the drain, with no flow during the non-irrigation season (Nov. 1 through Mar. 31) and high flows during the irrigation season (Apr. 1 through Oct. 31). Flows range from 0 mgd in the winter months up to 151 mgd during the summer months.

B. Sludge Disposal Sites.

The wastewater treatment plant currently disposes of its sludge in the Yakima County Cheyne municipal solid waste landfill, 8.5 miles ENE of Wapato,

Washington. The permittee has submitted to EPA a General Land Application Plan (GLAP) for spreading sludge on the land as fertilizer/soil amendment at unspecified future sites in the counties of Yakima, Benton, and Klickitat. No site will be considered that is within the boundaries of the Yakama Indian Reservation, other federal lands, or city limits of any municipality. Within Benton and Klickitat Counties, only sites currently under the operation or management of Natural Selection Farms will be considered. The permittee will land apply the sludge based upon individual site plans. The individual site plans will be prepared and distributed for review and comment according to the GLAP and the proposed permit. The permittee must have the plans approved by the Washington Department of Ecology.

IV. EFFLUENT LIMITATIONS

A. Background.

Sections 101, 301(b), 304, 308, 401, 402, and 405 of the Act provide the basis for the effluent limitations and other conditions in the draft permit. EPA evaluates discharges with respect to these sections of the Act and the relevant NPDES regulations in determining which conditions to include in the permit.

In general, EPA first determines which technology-based limits are required to be incorporated into the permit (40 CFR Part 122.44(a)), as well as best management practices or other requirements. Technology-based limits for municipal facilities (POTWs) are derived from secondary treatment standards and based on end-of-the-pipe technology. However, the Act requires NPDES permitted discharges to demonstrate compliance with state water quality standards.

Water quality-based limits are derived to protect the water quality of receiving waters. Therefore, the effluent limitations are developed from technology available to treat the pollutants (technology-based limits) and limits that are protective of the designated uses of the receiving water (water quality-based limits). The proposed permit will reflect whichever limits (technology-based or water quality-based) are more stringent. The limits which EPA is proposing in the draft permit for each parameter are discussed in Section IV.D.

B. Technology-Based Effluent Limits.

The intent of a technology-based effluent limitation is to require a minimum level of treatment for municipal point sources based on currently available treatment technologies while allowing the discharger to use any available control technique to meet the limitations. In 1972, the Act required POTWs to meet performance-based requirements based on available wastewater treatment technology. Section

301 of the Act established a required performance level, referred to as "secondary treatment," that all POTWs were required to meet by July 1, 1977.

More specifically, section 301(b)(1)(B) of the Act requires that EPA develop secondary treatment standards for POTWs as defined in section 304(d)(1) of the Act. Based on this statutory requirement, EPA developed secondary treatment regulations which are specified in 40 CFR 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of BOD_5, TSS, and pH.

C. Water Quality-Based Effluent Limits.

1. Water Quality Standards.

State water quality standards serve the dual purposes of establishing the water quality goals for a specific water body and serve as the regulatory basis for the establishment of water quality-based treatment controls and strategies beyond the technology-based levels of treatment required by sections 301(b) and 306 of the Act. Furthermore, section 301(b)(1)(C) of the Act requires the establishment of limitations in permits necessary to meet water quality standards by July 1, 1997.

States, including Indian Tribes that EPA determines to be eligible for purposes of water quality standards program, are responsible for reviewing, establishing , and revising water quality standards (40 CFR 131.4). Additionally, section 303 of the Act gives the states authority to develop water quality standards more stringent than required by this regulation. Once state adopted water quality standards are developed, EPA must approve or disapprove them (section 303(c)).

2. Toxic Pollutants.

The NPDES regulation (40 CFR Part 122.44(d)(1)) implementing water quality standards requires that permits include limits for all pollutants or parameters which "are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality." The regulations require that this evaluation be made using procedures which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant in the effluent, species sensitivity (for toxicity), and dilution in the receiving water (where appropriate). The limits must be stringent enough to ensure that water

quality standards are met, and must be consistent with any available wasteload allocation.

The regulations also specifically address when toxicity and chemical-specific limits are required. A toxicity limit is required whenever toxicity has the reasonable potential to cause or contribute to an excursion above either a numeric or narrative standard for toxicity. The only exception is where chemical-specific limits will fully achieve the narrative standard. A chemical-specific limit is required whenever an individual pollutant in a facility's discharge is at a level of concern (as defined in 40 CFR Part 122.44(d)(1)) relative to the numeric water quality criteria for that pollutant. To support the implementation on EPA's national policy for controlling the discharge of toxicants, EPA developed the *Technical Support Document for Water Quality-Based Toxics Control* (TSD), March 1991, EPA/505/2-90-001. The procedures of the TSD translate water quality criteria or standards to "end-of-the-pipe" effluent limits.

3. Receiving Water Flow.

In calculating effluent limits, conservative assumptions regarding the receiving water flow are made so that the resultant effluent limits are protective of water quality standards. A low receiving water flow and a peak future facility discharge (design flow) will be representative of the situation where dilution capability of the stream is restricted.

The TSD recommends the use of the low flow 7Q10 for effluent calculations. The State of Washington standards state that "mixing zone determinations shall consider critical discharge conditions" (WAC 173-201A-100(3)). The standards specify under the definition section that critical conditions may be assumed to be equal to the 7Q10 flow event unless determined otherwise by the Department. The applicable flow used to evaluate compliance with the criteria is the seven day, 10 year low flow (7Q10) for both acute and chronic criteria.

The flow data available for Drainage Way No. 2 near the facility shows bi-seasonal variation in the flow. Since there is no flow during the non-irrigation season, the 7Q10 is 0 mgd and the facility must meet the criteria at the end-of-pipe. For the irrigation season, a statistically significant 7Q10 flow of 11.91 mgd was calculated. The calculation of the 7Q10 for the irrigation season can be found in Appendix B. The estimated values for the 7Q10 during the irrigation season is 11.91 mgd.

4. Facility Flow. The facility design flow of 1.10 mgd was used in calculating effluent limits. This method is required for POTWs by the federal regulations (40 CFR 122.45(b)) and is a conservative value representing what would be anticipated as a peak future flow and again, worst case dilution potential. Data from the facility shows that discharge volume over the past five years ranges from 0.36 to 1.2 mgd. The discharge flows above the design flow are due to infiltration and inflow of the service pipes to the facility. The city is currently replacing this piping and anticipates future flows to be well below the design flow, even though the discharge rate has been increasing and moderate growth in population is forecasted for the area.

5. Mixing Zone.

A mixing zone is a transition region where effluent discharge blends into the receiving stream. The State of Washington water quality standards authorize mixing zones and provide mixing zone requirements (WAC 173-201A-100). By regulation, water quality criteria shall not be violated outside of the boundary of a mixing zone. A number of other conditions are outlined in the regulation including the requirement that the discharger must be implementing all known, available, and reasonable methods of prevention, control, and treatment (AKART) before being authorized a mixing zone and that critical discharge conditions (i.e., conservative assumptions) be considered in determining the mixing zone.

The Washington regulation states that the mixing zone shall not utilize more than twenty-five percent (25%) of the stream flow and, for acute criteria, the mixing zone shall not utilize greater than 2.5% of the stream flow. The regulation also limits mixing zone dimensions upstream and downstream from the discharge point as well as limiting the percent of the width of the receiving water that is available for mixing. These dimensions of a mixing zone are determined from modeling the receiving water and the effluent.

To simplify the calculations for this particular permit, 25% of stream flow for chronic criteria, and 2.5% stream flow for acute criteria, were used in a mass balance equation in order to determine facility effluent limits. The lack of specific data on Drainage Way No. 2 near the outfall prevented a more detailed analysis of the resulting mixing zone dimensions. No mixing zone is allowed during the non-irrigation season.

D. Evaluation of Effluent Limitations.

1. BOD_5 and TSS.

a. Concentration Limitations and Percent Removal. Biochemical oxygen demand (BOD_5) and total suspended solids (TSS) concentration limitations and percent removal requirements are based on the federal secondary treatment, technology-based regulation found in 40 CFR 133.102. The proposed limits are: 30 mg/L (monthly average) and 45 mg/L (weekly average) with ≥85% removal. These limits are consistent with the previous permit.

b. Mass-Based Limitations.

The proposed permit contains technology-based effluent loading limitations for BOD_5 and TSS based on the Wapato wastewater facility design flow (refer to calculations in Appendix C). The BOD_5 and TSS loading limitations are derived by multiplying the secondary treatment concentration limitations by the future plant design flow (40 CFR 122.45(b)), and a unit conversion factor of 8.34 lb·L/mg·gal. The proposed average loadings are: 275 lbs/day (monthly) and 413 lbs/day (weekly).

The proposed loadings for the facility are greater than those in the current permit. This is because the current permit used the design loading of the facility and multiplied by (1- % removal) to produce a limit whereas the proposed permit uses the design flow calculation (refer to Appendix C). A review of the facility's Discharge Monitoring Reports (DMRs) indicates that the facility has been in compliance with the current loadings and will be able to discharge well below the proposed loadings.

2. pH.

The technology-based limitation based on the federal regulations (40 CFR Part 133.102) is 6.0 - 9.0 standard units. However, the Washington State water quality-based limitation for Class A waters (WAC 173-201A-030) is 6.5 - 8.5 standard units. The proposed permit incorporates the state's more stringent limit of 6.5 - 8.5 standard units.

3. Fecal Coliform Bacteria.

The water quality-based fecal coliform bacteria limitation for Class A waters is defined in the State of Washington's water quality standards (WAC 173-201A-030(2)(c)(i)(A)). Fecal coliform concentration in Class A waters must not exceed a geometric mean of 100 colonies/100 mL, and not have more than 10 percent of all samples obtained for calculating the geometric mean value exceeding 200 colonies/100 mL.

Wastewater treatment plant permits typically express fecal coliform limits as average monthly and average weekly limits. Therefore, the proposed permit incorporates the geometric mean value of 100 colonies/100 mL as the average monthly limit and the geometric mean value of 200 colonies/100 mL as the average weekly limit.

In the current permit, the facility was only required to sample the fecal coliform bacteria during the non-irrigation season. A review of the facilities DMRs for the past five years during the non-irrigation season indicates that the facility was able to comply with the current fecal coliform requirements and will be able to attain the proposed permit limits.

4. Total Residual Chlorine.

a. Effluent Limit.

The state water quality standard for total residual chlorine to protect aquatic life (WAC 173-201A-040) cannot exceed 19 µg/L for a one-hour average concentration (acute criterion) and 11 µg/L for a four-day average concentration (chronic criterion). Appendix C shows the application of the methods of the TSD in deriving water quality-based effluent limitations for total residual chlorine for the Wapato facility. Since ambient monitoring did not include chlorine analysis and there are no known upstream sources of chlorine, the upstream chlorine level was assumed to be zero in the Reasonable Potential calculations.

The water quality-based total residual chlorine limitations for the proposed permit are 0.024 mg/L (24 µg/L) for the maximum daily limit and 0.009 mg/L (9 µg/L) for the average monthly limit during the irrigation season (April 1 through October 31). During the non-irrigation season (November 1 through March 31), the average monthly limit is 7 µg/L and the maximum daily limit is 19 µg/L.

b. Detection Limit.

The final effluent limits cited above are below or near the capability of current analytical technology's ability to detect chlorine. The detection limit for chlorine is 0.010 mg/L for the DPD method cited in 40 CFR 136. The detection limit is the minimum concentration that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero. The minimum level is defined as the lowest concentration that gives recognizable signals and an acceptable calibration point.

When the effluent limit falls below the method detection limit (MDL), EPA Region 10 has adopted guidance in which: 1) the water quality based effluent limits are incorporated into the permit, 2) the minimum level (ML) will be used as the compliance evaluation level, and 3) in the absence of a promulgated ML, an interim ML should be used. The interim ML can be derived most effectively as a multiple of the MDL. In this case, the interim ML is 3.18 times the published MDL (from "EPA Region 10 Guidance for WQBELs Below Analytical Detection/Quantification Level", 1996). Thus, the interim ML is 0.32 mg/L for total residual chlorine. The interim ML for non-metals is rounded to the nearest multiple of 1, 2, 5, 10, 20, 50.....(EPA memo *Status of Detection Level Strategies*, 9/9/93). Therefore, 0.020 mg/L is the final compliance evaluation level for total residual chlorine.

c. Compliance Schedule.

The Wapato facility monitors their effluent for residual chlorine daily and the results were recorded in the facility's DMRs. The data are summarized in the following table:

Table 2. Total Residual Chlorine in Effluent

	Daily Average	**Monthly Average**
Number of Measurements	4513	149
Range	0-3 mg/L	0-1.2 mg/L
Mean	0.6 mg/L	0.6 mg/L
Median	0.6 mg/L	0.7 mg/L
75th Percentile	0.9 mg/L	0.8 mg/L
95th Percentile	0.9 mg/L	0.9 mg/L

The mean daily effluent concentration of chlorine is 0.6 mg/L, which is considerably higher than the proposed limits for this facility. This facility will likely need to construct treatment capability in order to meet the chlorine limit and, therefore, a schedule of compliance has been established and incorporated into the permit. The schedule of compliance includes major milestones which outline how the facility will come into compliance with the final limit before the end of the five year term of this permit. Also, an interim chlorine effluent limit has been established for the time during which the water quality based effluent limit is being deferred. Federal requirements for schedules of compliance are specified under 40 CFR 122.47 and State of Washington requirements are found at WAC 173-201A-150(4) "Allowance for compliance schedules." Anticipating a permit effective date of February 1998, the final compliance date of January 30, 2002, has been selected to allow at least one year data to be collected from the facility for the next permit re-issuance.

The interim limit established for the facility is based on best professional judgement using a technology-based standard of 0.5 mg/L. The technology-based effluent limitation is derived from standard operating practices. The Water Pollution Control Federation's *Chlorination of Wastewater* (1976) states that a properly designed and maintained wastewater treatment plant can achieve adequate disinfection if a 0.5 mg/l chlorine residual is maintained after 15 minutes of contact time. A treatment plant that provides adequate chlorination contact time can meet the 0.5 mg/l limit on a monthly average basis.

Additionally, the facility shall submit a report to EPA and the Yakama Nation in January of each year which outlines the progress made towards reaching the final compliance date of January 30, 2002.

5. Total Ammonia as N.

The water quality criteria for ammonia are found in the Washington water quality standards for surface waters (WAC 173-201A-040). The current permit does not limit ammonia and the facility has not historically collected effluent ammonia data. Since the facility was not required to perform ammonia monitoring under the current permit, there is insufficient data to calculate a Coefficient of Variation (CV) value to determine the ammonia limit. The only effluent data available are from the Ecology inspection reports and were collected on October 6-7,1989, and September 15-16, 1992: 9.8 mg/L (24 hour composite), 8.6 mg/L (24 hour composite), 7.7 mg/L (grab), 6.8 mg/L (grab), 10.5 mg/L (grab), 10.1 mg/L (24 hour composite) 11.0 mg/L (grab), 11.5 mg/L (grab).

The water quality criteria for ammonia are dependent on the receiving water pH and temperature, however, sufficient ambient monitoring data was not available to establish the receiving water pH and temperature when effluent monitoring data was available. Due to the limited data available, a performance based ammonia limit of 11.0 mg/L is incorporated in the proposed permit based on the 95th percentile of the data from the Ecology inspection reports. This limit will ensure that the facility does not exceed a limit that EPA is confident the facility can meet. Furthermore, this permit requires effluent, upstream, and downstream ammonia, temperature, and pH monitoring so that effluent limits can be evaluated more thoroughly in the next permit reissuance.

6. Dissolved Oxygen (DO).

The water quality criteria for DO is found in the Washington water quality standards for surface waters (WAC 173-201A-030(2)(c)). The water quality criteria states that the receiving water DO shall exceed 8.0 mg/L. A Streeter-Phelps model (see Appendix C) was performed for the Wapato facility using data provided by the Yakama Nation and the DMRs from the facility. The model shows that the facility effluent reduces the background DO by less than 1.0 mg/L. Since the upstream receiving water DO is retained above 10.0 mg/L, the water quality criteria would not be violated by the facility's effluent. Therefore, no DO limit is imposed on this facility. However, monitoring of the receiving water in the third year of

the proposed permit will be required to allow water quality criteria for DO to be evaluated for the next permit reissuance. Monitoring shall include flow, DO, and BOD.

7. Aesthetic Values.

The state water quality standards (WAC 173-201A-030(2)(c)(viii)) states that aesthetic values shall not be impaired by the presence of materials or their effects. Therefore, a condition has been incorporated into the permit that states there shall be no discharges of floating solids, visible foam, or oily wastes which produce a sheen on the surface of the water.

8. TSS TMDL.

Federal, State, Tribal, and local environmental agencies are developing a TSS Total Maximum Daily Load (TMDL) for the lower Yakima River. The TMDL will define the amount of TSS loading that can occur in the lower Yakima River. When completed, TSS levels from the drainage way and hence from the facility could be affected. This permit may be reopened to incorporate any necessary additional restrictions on TSS in the discharge when the TSS TMDL is completed for the lower Yakima River.

E. Antidegradation.

In proposing to reissue this permit, EPA has considered the State of Washington's antidegradation policy (WAC 173-201A-070). This provision states that "the existing beneficial uses shall be maintained and protected and no further degradation which would interfere with or become injurious to existing beneficial uses shall be allowed." The issuance of this permit will not result in the increase loading of pollutants and the limits in the permit are consistent with Washington's antidegradation policy.

V. WATER QUALITY MONITORING PROGRAM

A. Effluent Monitoring Requirements.

In addition to providing technology-based and water quality-based limits, monitoring requirements must be included in the permit to determine compliance with effluent limitations (section 308 of the Act and 40 CFR 122.44(i)). Self-monitoring of effluent parameters is necessary for the permittee to demonstrate compliance with effluent limitations and to assure that state water quality standards are met (40 CFR 122.41(i)). Additional monitoring may also be required to gather data for future effluent limitations or to monitor effluent

impacts on receiving water quality. Monitoring frequencies are based on the nature and effect of the pollutant, as well as a determination of the minimum sampling necessary to adequately monitor the facility's performance.

Required sample types are based on the determination of the potential for effluent variability. These determinations take into consideration several factors, of which the most important are the type of pollutants of concern and the type of treatment system. The current permit does not require monitoring for ammonia, however, this monitoring requirement has been added to those listed in the proposed permit. The other parameters and their monitoring frequencies are incorporated pursuant to section 308 of the Act and 40 CFR Part 122.44(i).

B. Ambient Monitoring Requirements.

The purpose of ambient monitoring is to determine water quality conditions as part of the effort to evaluate the reasonable potential for the discharge to cause an instream excursion above water quality criteria (40 CFR 122.44). The instream monitoring station shall be located upstream of the influence of the Wapato outfall. The permittee will be required to monitor Drainage Way No. 2 for the following parameters: pH (standard units), flow (mgd), temperature (°C), total ammonia as N, TSS (mg/L), DO (mg/L), and BOD (mg/L).

Downstream data for ammonia, pH, temperature, DO, and BOD will also be gathered to gain a better understanding of ammonia and DO concentrations downstream of the facility near the edges of the potential acute and chronic mixing zones. The permittee will select the sampling locations and submit them to EPA and the Yakama Nation Environmental Protection Program for approval. The samples will be collected monthly on the same date as the upstream sampling to reflect the variation of flow in the receiving water.

Ambient water samples are required to be conducted only during the third year of the permit, however, the facility may conduct more sampling events to increase the accuracy of the receiving water concentrations.

C. Whole Effluent Toxicity Testing.

The municipal application regulations require POTWs with design influent flows equal to or greater than 1.0 mgd, and POTWs with approved pretreatment programs, to submit results of whole effluent toxicity (WET) testing (40 CFR 122.21(j)(1)). Since this facility is currently under construction, the whole effluent toxicity test is deferred until the fourth year of this permit. The test will be conducted quarterly for two species. Due to the modification of the facility's disinfection system occurring during this time period, the effluent samples should

be taken prior to entering the chlorine contact chamber. The results of the WET test shall be submitted with the permit re-application, as required in the federal regulations, and will be considered during permit re-issuance.

VI. SPECIAL CONDITIONS

A. Quality Assurance Plan (QAP).

Under 40 CFR Part 122.41(e), the permittee is required to ensure adequate laboratory controls and appropriate quality assurance procedures in order to properly operate and maintain all facilities which it uses. Therefore, this permit requires the permittee to develop a Quality Assurance Plan (QAP) that will assist in planning for the collection and analysis of samples in support of the permit and in explaining data anomalies when they occur. The proposed permit requires the permittee to submit a QAP within 90 days of the effective date of the permit.

B. Municipal Sewage Sludge (Biosolids).

The sludge management regulations of 40 CFR 503 were designed so that the standards are directly enforceable against most users or disposers of sewage sludge, whether or not they obtain a permit. Therefore, the publication of Part 503 in the *Federal Register* on February 19, 1993 served as notice to the regulated community of its duty to comply with the requirements of the rule, except those requirements that indicate that the permitting authority shall specify what has to be done.

Even though Part 503 is largely self-implementing, Section 405(f) of the Act requires the inclusion of sewage sludge use or disposal requirements in any NPDES permit issued to a Treatment Works Treating Domestic Sewage (TWTDS). In addition, the sludge permitting regulations in 40 CFR 122 and 124 have been revised to expand its authority to issue NPDES permits with these requirements. This includes all sewage sludge generators, sewage sludge treaters and blenders, surface disposal sites and sewage sludge incinerators. Therefore, the requirements of 40 CFR 503 have to be met when sewage sludge is applied to the land, placed on a surface disposal site, placed on a municipal solid waste landfill (MSWLF) unit, or fired in a sewage sludge incinerator.

Requirements are included in Part 503 for pollutants in sewage sludge, the reduction of pathogens in sewage sludge, the reduction of the characteristics in sewage sludge that attract vectors, the quality of the exit gas from a sewage sludge incinerator stack, the quality of sewage sludge that is placed in a MSWLF unit, the sites where sewage sludge is either land applied or placed for final disposal, and for a sewage sludge incinerator. The sections of the federal standards at 40 CFR

Part 503 applicable to this facility's proposed practices are Section A (General Provisions, 503.1-9), Section B (Land Application, 503.10-18), and Section D (Pathogen & Vector Control, 503.30-33).

1. Sludge Management.

The permittee currently treats and stabilizes sludge from the clarifiers in aerobic primary and secondary digesters. The sludge is then sent to the drying beds and stockpiled for up to one year. When the facility upgrades are complete, the facility will have three aerobic digesters that result in longer detention times and better vector attraction control. The new centrifuge unit will thicken the sludge and allow for sludge removal during the winter months. The existing drying beds will continue to be used to stockpile dewatered sludge prior to being transferred from the Wapato treatment plant to the Cheyne municipal solid waste landfill for disposal. These practices are covered in the proposed permit.

The permittee has requested that the permit allow the option to produce Class B sewerage sludge (biosolids) for use as a fertilizer on land in the counties of Yakima, Benton, and Klickitat. This sludge must be used according to the site plans and any short term restrictions. If the permittee decides to land apply some or all of its biosolids in the future, the proposed permit (1) defines the general area where this material may be distributed, (2) regulates any land application activity in that area, (3) establish limitations for ten metals, (4) pathogen reduction requirements, (5) vector control requirements, (6) requires notification of neighbors, (7) identification of any endangered species habitat, and (8) requires individual site plans for future land application. Additionally, the permittee must obtain state approval of the individual sites and plans.

2. Permit Requirements.

To ensure compliance with the Act and the 40 CFR 503 standards, the draft permit contains the following requirements:

a. Health & Environment General Requirement.

The Act requires that the environment and public health be protected from toxic effects of any pollutants in sludge using a combination of the national standards for some pollutants, and permits for the others (section 405(d)(4)). Therefore, the permittee must handle and use or dispose of the biosolids in such a way as to protect the human health and the environment. Under this

requirement, the permittee is responsible for determining the pollutants allowed to accumulate in the sewage sludge and for preventing harm to human health and the environment from those pollutants.

The U.S. Department of Agriculture can assist the facility in evaluating potential nutrient or micronutrient problems. EPA has published the following guidance to assist facilities in evaluating their biosolids for pollutants other than those listed in 40 CFR 503: *Part 503 Implementation Guidance*, EPA 833-R-95-001, and *Environmental Regulations and Technology: Control of Pathogens and Vector Attraction in Sewage Sludge*, EPA/625/R-92/013.

b. State Laws and Future Federal Standards. The permittee must comply with all existing federal and state laws, and all regulations applying to sludge use and disposal. These standards shall be interpreted using the proposed permit and the specific EPA guidance documents listed in paragraph a above. These documents are used by EPA Region 10 as the primary technical references for both permitting and enforcement activities.

c. Protection of Surface Waters from Sludge Pollutant. Section 405(a) of the Act specifically prohibits any practice where sludge pollutants removed in a treatment works at one location would ultimately enter surface waters at another location without a specific permit. Under this requirement, the permittee must develop individual site practices that protect surface waters from release of metals, nutrients, pathogens, etc. contained in the biosolids.

d. Responsibility for Land Application. Part 503.7 of the sludge standards specify that generators are responsible for the correct use or disposal of their sludge. For the purposes of this permit, and for the purposes of compliance with the 503 standards, the permittee is considered the "person who applies biosolids to the land" under the land application regulations. All haulers, contractors, equipment operators, farmers, or others who might be involved in the land application process or in post-application control of the land and the crops are considered agents for the permittee, both for determinations of compliance with this permit and for determinations of compliance with the 503 standards (which are

"self-implementing" and directly enforceable separate from the proposed permit).

e. Control of Pathogens, Vectors & Metals.

The proposed permit prescribes the appropriate methods for pathogen and vector control, as well as the control of the 10 metals listed in EPA's 503 standards. Pollutants not listed in the 503 standards are controlled under the "Health and Environment General Requirement" in paragraph a above.

The standards allow alternative methods and measurements for preparing the Class B biosolids; some options are allowed based on the capabilities demonstrated in the permit application. The proposed permit allows the permittee to change to other options available under the rules by submitting a 90-day advance notice to EPA. This time period may be necessary to obtain revised permit application information on the new procedures, and to test and correct the procedures before the approved procedures are discontinued.

f. Distribution Areas, Products, and Use/Disposal Practices.

The proposed permit identifies the general geographical area within which the permittee may distribute the sludge or biosolids products. A map of the approved area is located in Appendix D. The general methods and options for biosolids treatment, use, or disposal are described in the proposed permit.

In the General Land Application Plan (GLAP), the permittee has chosen not to include any tribal reservations, municipal limits, or federal lands. The plan did not mention State lands or distinguish public or private lands in municipal limits, so these have been specifically excluded in the permit conditions.

For each new site where Class B biosolids will be used, the permittee must prepare individual site plans, and notify the occupants of land adjacent to the site, along with other interested parties, following methods specified in the proposed permit and the GLAP.

Due to the general nature of the GLAP, the permittee is required to consult with local agricultural agencies on environmentally sound

agricultural practices for each site. The State of Washington must approve the plan(s) prior to land application to any site. EPA may selectively review site plans, however, EPA approval is not required except when endangered species habitat is involved.

g. Priority Pollutant Scan. The permittee was requested to submit a priority pollutant scan of their sewage sludge with their permit application. EPA has decided to extend this request and include it as a permit requirement. The permittee will be required to submit the priority pollutant scan of the sludge to EPA one year after the issuance of the proposed permit.

h. Reporting. At a minimum, 40 CFR 503.18 specifies that certain facilities report annually the information that they are required to develop and retain under the recordkeeping requirements (40 CFR 503.17). This requirement applies to permittees defined as Class I management facilities, POTWs with a flow rate equal to or greater than one mgd, and POTWs serving a population of 10,000 or greater. The following information should be included to improve the reliability of the report: (1) units for reported concentrations, (2) dry weight concentrations, (3) number of samples collected during the monitoring period, (4) number of excursions during the monitoring period, (5) sample collection techniques, and (6) analytical methods.

3. Land Reclamation Rates. Under 40 CFR 503.14, separate EPA approval is required before applying Class B (farm grade) biosolids at high rates (above the agronomic rate for vegetation grown on a site). The permittee has not requested permitting for land reclamation and has not developed planning procedures or practices for controlling reclamation. Therefore, this practice is excluded from the permit.

C. Pretreatment.

1. Industrial User Survey. The General Pretreatment Regulations require small POTWs receiving industrial discharges causing pass through or interference to establish an approved local pretreatment program. Since the City of Wapato has had considerable problems with overloading of the facility, the permittee is required to conduct an Industrial User Survey and submit the survey to EPA and the Yakama Nation by January 15, 1999. This information will allow EPA to determine if the City of Wapato needs to develop a pretreatment program and require local industries discharging to the facility to pretreat their wastes. The pretreatment program

requirements would prevent disruption of the sewage treatment system, adverse environmental impacts, disruption of sludge use or disposal, and adverse impacts on worker health and safety.

2. Industrial User Monitoring Data. The City of Wapato is in the process of installing monitoring stations in their city sewer system. This will allow the city to monitor flow rates and loadings from specific industrial users. The monitoring stations are due to be installed and implemented by Spring of 1998. The data from these monitoring stations is to be compiled and submitted to EPA and the Yakama Nation with the Industrial User Survey by January 15, 1999.

3. Metals Monitoring. Based on the results of the Industrial User Survey, the permittee may be required to perform metals monitoring in their effluent if EPA determines that there is a potential for these pollutants from indirect dischargers. In accordance with CWA section 308, the permittee will be notified by letter if metals monitoring of their effluent is necessary.

VII. OTHER LEGAL REQUIREMENTS

A. Endangered Species Act.

1. Effluent Discharge.

Section 7(a) and (c) of the Endangered Species Act requires federal agencies to request a consultation with the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) regarding potential effects an action may have on endangered species. EPA has requested a listing of threatened and endangered species in the vicinity of the Wapato Wastewater Treatment facility from NMFS and USFWS. A letter from USFWS dated November 14, 1997 indicated that there were no threatened or endangered species listed, proposed, or candidate for listing under their jurisdiction in the vicinity of the facility. A letter from the NMFS dated October 22, 1997, indicated that there are no federally listed anadromous fish species in the project area, but list the chinook salmon (Oncorhynchus tshawytscha) and the Middle Columbia River steelhead (O. mykiss) as a candidate species under ESA in the Yakima River. No other species are listed or proposed for listing as threatened or endangered under their jurisdiction, in the vicinity of the facility. EPA has reviewed the effect that the Wapato Wastewater Treatment facility effluent pollutants would have on the candidate species and determined that the discharge for the facility will not affect the candidate species. EPA is doing informal consultation with the NMFS

and will report in the response to comments if it is determined that any candidate species would be effected by the discharge.

2. Land Application of Sewage Sludge (Biosolids).

Procedures are required to ensure endangered species habitat is identified each time a new customer requests biosolids for land application. The permittee is responsible for ensuring that the endangered species review is conducted by a qualified person (biologist or botanist). The federal wildlife agencies may help identify endangered species which might be in the general area (e.g., the county), but will not usually provide the specific on-site review necessary for the permittee to determine if the site includes habitat potentially containing or supporting endangered species. The review results must be specifically addressed in the individual site plan. If potential endangered species habitat is found, EPA must become involved to ensure Endangered Species Act requirements are satisfied.

B. State Certification.

Since the discharge is from a facility located within the boundaries of the Yakama Indian Reservation, the provisions of Section 401 of the Act requiring state certification of the permit do not apply and EPA will conduct the 401 certification of this permit. However, a copy of the proposed permit action has been provided to the Yakama Indian Nation, Bureau of Indian Affairs, Bureau of Reclamation, and Bureau of Land Management.

C. Interstate Waters.

Under 40 CFR 124.10(c)(1)(iii), EPA must give notice of this permit action to any affected state. Notice has been given to Washington Department of Ecology and other Washington state agencies (as defined in this regulation) potentially impacted by this action.

D. Permit Expiration.

This permit will expire five years from the effective date of the permit.